



SEQUENCE LISTING

<110> LABORATOIRE FRANÇAIS DU FRACTIONNEMENT ET DES
BIOTECHNOLOGIES
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<120> USE OF METALLIC CATIONS TO IMPROVE FUNCTIONAL ACTIVITY
OF ANTIBODIES

<130> D 21 711 NT

<140> PCT/FR2004/002687
<141> 2004-10-20

<150> FR 03 12228
<151> 2003-10-20

<160> 2

<170> PatentIn version 3.3

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<211> 1428
<212> DNA
<213> Homo sapiens

<220>
<223> cDNA sequence of double mutant His310-435Lys

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<210> 2
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<212> PRT
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<220>
<223> Peptide sequence of double mutant His310-H435Lys.

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Val Gln Cys Gln Val Gln Leu Val Glu Ser Gly Gly Gly Val Val Gln
20           25           30

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```

Pro Gly Arg Ser Leu Arg Leu Ser Cys Thr Ala Ser Gly Phe Thr Phe
35           40           45

```

```

Lys Asn Tyr Ala Met His Trp Val Arg Gln Ala Pro Ala Lys Gly Leu
50           55           60

```

```

Glu Trp Val Ala Thr Ile Ser Tyr Asp Gly Arg Asn Ile Gln Tyr Ala
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```

```

Asp Ser Val Lys Gly Arg Cys Thr Phe Ser Arg Asp Asn Ser Gln Asp
85           90           95

```

```

Thr Leu Tyr Leu Gln Leu Asn Ser Leu Arg Pro Glu Asp Thr Ala Val
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Tyr	Tyr	Cys	Ala	Arg	Pro	Val	Arg	Ser	Arg	Trp	Leu	Gln	Leu	Gly	Leu			
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Glu	Asp	Ala	Phe	His	Ile	Trp	Gly	Gln	Gly	Thr	Met	Val	Thr	Val	Ser			
	130					135					140							
Ser	Ala	Ser	Thr	Lys	Gly	Pro	Ser	Val	Phe	Pro	Leu	Ala	Pro	Ser	Ser			
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Lys	Ser	Thr	Ser	Gly	Gly	Thr	Ala	Ala	Leu	Gly	Cys	Leu	Val	Lys	Asp			
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Ser	Gly	Val	His	Thr	Phe	Pro	Ala	Val	Leu	Gln	Ser	Ser	Gly	Leu	Tyr			
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	210					215					220							
Thr	Tyr	Ile	Cys	Asn	Val	Asn	His	Lys	Pro	Ser	Asn	Thr	Lys	Val	Asp			
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Pro	Lys	Pro	Lys	Asp	Thr	Leu	Met	Ile	Ser	Arg	Thr	Pro	Glu	Val	Thr			
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Cys	Val	Val	Val	Asp	Val	Ser	His	Glu	Asp	Pro	Glu	Val	Lys	Phe	Asn			
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Trp	Tyr	Val	Asp	Gly	Val	Glu	Val	His	Asn	Ala	Lys	Thr	Lys	Pro	Arg			
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Leu	Lys	Gln	Asp	Trp	Leu	Asn	Gly	Lys	Glu	Tyr	Lys	Cys	Lys	Val	Ser			
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Asn Lys Ala Leu Pro Ala Pro Ile Glu Lys Thr Ile Ser Lys Ala Lys
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Gly Gln Pro Arg Glu Pro Gln Val Tyr Thr Leu Pro Pro Ser Arg Asp
 370 375 380

Glu Leu Thr Lys Asn Gln Val Ser Leu Thr Cys Leu Val Lys Gly Phe
 385 390 395 400

Tyr Pro Ser Asp Ile Ala Val Glu Trp Glu Ser Asn Gly Gln Pro Glu
 405 410 415

Asn Asn Tyr Lys Thr Thr Pro Pro Val Leu Asp Ser Asp Gly Ser Phe
 420 425 430

Phe Leu Tyr Ser Lys Leu Thr Val Asp Lys Ser Arg Trp Gln Gln Gly
 435 440 445

Asn Val Phe Ser Cys Ser Val Met His Glu Ala Leu His Asn Lys Tyr
 450 455 460

Thr Gln Lys Ser Leu Ser Leu Ser Pro Gly Lys
 465 470 475